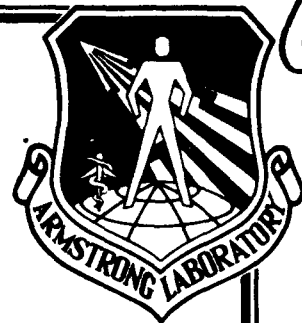


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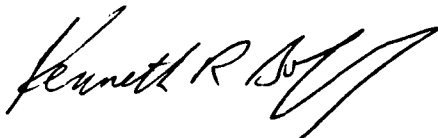
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FOR THE COMMANDER



KENNETH R. BOFF, Chief  
Human Engineering Division  
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## FOREWORD

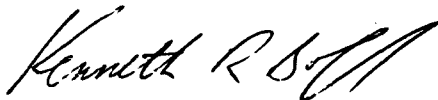
*In Science, by a fiction as remarkable as any to be found in law, what has once been published, even though it be in the Russian Language, is spoken of as known, and it is too often forgotten that the rediscovery in the library may be a more difficult and uncertain process than the first discovery in the laboratory.*

Lord Rayleigh, 1884

The data, models, guidance, technology demonstrations, and evaluations produced under laboratory research and development efforts are typically archived as technical reports, journal articles, or other professional communications. Ultimately, it is this scientific and technical documentation that is the enduring product of research and development. In the normal course of events, however, collections of these technical information products accumulate and all-too-often languish in libraries, data bases, and proprietary archives. Under these conditions, the value of R&D accomplishments and investments may either be diminished or never attained. Given that the value of information can only be realized through its use, it is, therefore vital, that responsible R&D managers make every effort to reduce the high costs of "rediscovery" of their research products by potential users.

The mission of the Armstrong Laboratory, Fitts Human Engineering Division involves the scientific study and documentation of capabilities and limitations of operators to aid the design of technologically superior human-systems. In developing this cumulative bibliographic reference, it is our intent to aid and promote the accessibility of relevant Human Engineering Division research information. Future updates of this bibliography will be available on an annual basis. If you have further interest in the mission or products of the Fitts Human Engineering Division, please do not hesitate to contact me at:

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KENNETH R. BOFF, PhD  
Chief, Human Engineering Division

## PREFACE


This bibliography contains information for the technical reports, proceedings and articles published by the Human Engineering Division of the Crew Systems Directorate, Armstrong Laboratory, between January 1987 and December 1993. The bibliography is divided into six technical areas: Human Capabilities and Limitations; Design Aiding Technologies; Advanced Displays, Controls, and Computer Interfaces; Crew System Integration, Test and Evaluation; Modeling and Simulation; and Chemical Defense.

All citations in the bibliography are in the American Psychological Association (APA) format<sup>1</sup>. We have tried to adhere to this format, however, there are some minor deviations.

Most reports listed in this document should be available from the Defense Technical Information Center (DTIC), Cameron Station, Alexandria VA 22304-6145, or through local libraries. If further assistance is required, please contact Rebecca Green, AL/CFHA, Bldg. 248, 2255 H Street, Wright-Patterson AFB OH 45433-7022.

This was a major effort, requiring groundbreaking development of a new computer bibliographic data base, recovering existing bibliographic data, development of a standardized citation format, and requiring a thorough review of citations for accuracy and completeness.

I am grateful for the support provided by Susan Pfaadt, Logicon Technical Services, Inc. Without her technical expertise and sacrifice, this work could not have been accomplished. Also a special thank you to David Spangler and Rachel Porter of Logicon Technical Services, Inc. who spent countless hours researching and entering the data and Elizabeth Combs for assisting in the final editing of the bibliography. I would also like to acknowledge my Branch Chief, Walter Summers, for his continued encouragement and support. I am also extremely grateful to the Division Chief, Dr. Kenneth Boff, who had the vision for this project and was always available for guidance, encouragement, and decision making. Lastly, a heartfelt thank you to all of the many authors who provided the information for this project.



REBECCA J. GREEN  
Human Engineering Division

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<sup>1</sup>Publication Manual of the American Psychological Association (1983), Washington DC.

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